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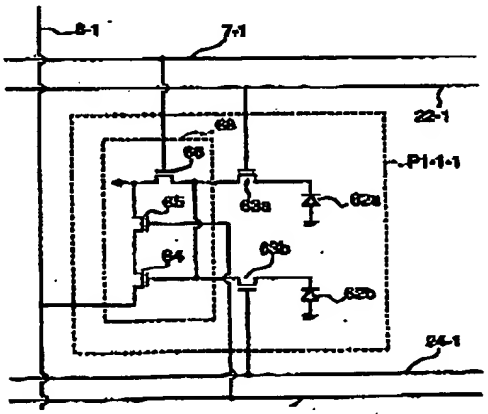
(54)Title: MOS IMAGE PICKUP DEVICE

(54)発明の名称 MOS型固体撮像装置

(57) Abstract

A MOS image pickup device in which unit cells are arranged two-dimensionally in a matrix, a horizontal line (column) of unit cells is selected by means of a vertical address circuit, a vertical signal line to which the outputs of one vertical line (row) of unit cells are fed by means of a horizontal address circuit, and the signals of the unit cells are sequentially outputted. Each unit cell is provided with an output circuit which outputs the output of a photodiode to a vertical signal line, a plurality of photodiodes connected in parallel with the output circuit, and selection switch which selects one of the photodiodes and connects the selected photodiode to the output circuit. The output circuit is composed of an amplifying transistor which amplifies the outputs of the photodiodes, a selection transistor which selects one of the unit cells, and a reset transistor which resets the electric charge of the photodiodes.



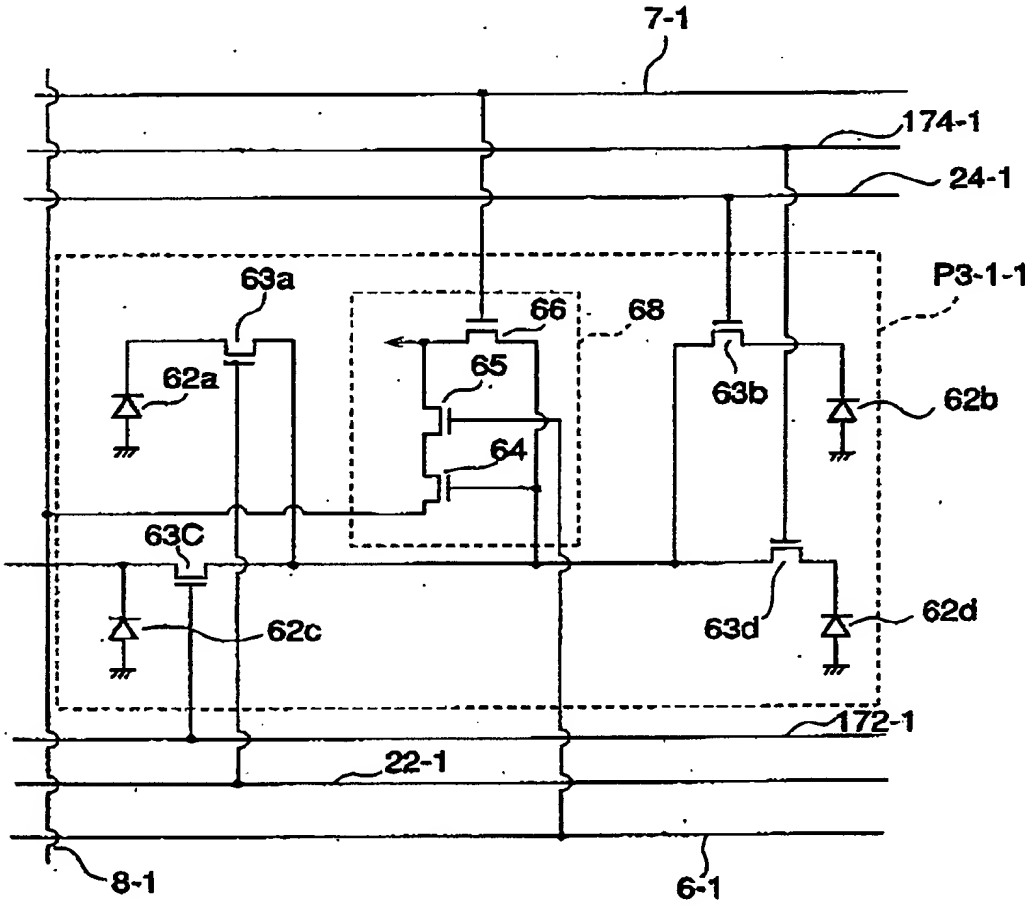


FIG. 33

Our translation of page 31, lines 2-17 of the document (2)

Fig. 33 shows a structure of a unit cell P3-1-1 shown in Fig 32. This figure shows only the unit cell P3-1-1. However, each of the other unit cells P3-1-2 etc. has the same structure as the unit cell P3-1-1.

As shown in Fig. 33, a unit cell of a MOS-type solid-state image pickup apparatus of the present embodiment is constructed with four photodiodes 62a to 62d, four photodiode selection transistors 63a to 63d and one output circuit 68. The four photodiodes are arranged in a matrix form of two rows x two columns.

The photodiodes 62a to 62d are connected in common to the output circuit 68 respectively through the selection transistors 63a to 63d. The respective selection transistors 63a to 63d are independently turned on and of via photodiode selection lines 22-1, 24-1, 172-1 and 174-1 which are arranged from a vertical address circuit 5 in a horizontal direction.

As described above, since the unit cell P1-1-1 is constructed by connecting the four photodiodes 62a to 62d in common to the output circuit 64, the present embodiment can omit three output circuits compared with a MOS-type solid-state image pickup apparatus of the prior art.